

REMARKS

Entry of this Amendment and reconsideration are respectfully requested in view of the amendments made to the claims and for the remarks made herein.

Claims 1-15 are pending.

Claims 1-9 and 13 stand rejected.

Claims 10-12 have been withdrawn from consideration in a previous communication. Claims 14 and 15 have been withdrawn by the Examiner by virtue of their reference to withdrawn claim 10.

Claims 1 and 13 are independent claims.

Claims 1-5 and 13 have been amended. Claim 14, which has been withdrawn from consideration has been amended to correct errors noted in the claim.

The Office Action reminds the Applicant that references are referred to in the Specification and an IDS listing these references was not provided. The Specification is objected to for failing to include headings. Claims 1-9 and 13 stand rejected under 35 USC 112, second paragraph as being indefinite. Claims 1-9 and 13 stand rejected under 35 USC 103(a) as being unpatentable over Nagayama (USPPA 2004/0119399) in view of Dimitrakopoulos (USP no. 5,981,970) or in the alternative over Dimitrakopoulos in view of Nagayama.

Prior to commenting on the merits of the rejection of the claims, applicant would note that during the review process in preparation for responding to the instant Office Action, it was noticed that the set of claims filed in the Response to the Restriction Requirement inadvertently referred to the original claim set and not the claim set filed in the Preliminary Amendment filed concurrently with the original claim set. In the Preliminary Amendment claims 1-12 were amended to remove the character reference labels from the claims. Claims 13-15 were added to the claim set in the Response to the Restriction Requirement.

Thus, to provide a correct status of the claims for continued prosecution of this matter, applicant includes, herein, the claims 1-12 from the Preliminary Amendment, which had been amended to remove the character reference labels and claims 13-15, which were added in the Response to the Restriction Requirement.

Applicant believes that as the substance of the claims 1-12 has not been altered between the Preliminary Amendment and the Response to the Restriction Requirement, the claims presented, herein, represent the latest form of the claims.

Furthermore, the Office Action refers to claim 13 as being pending in this matter and claim 14 being withdrawn, even though claim 13 refers to withdrawn claim 10 and claim 14 refers to claim 1. That is, claim 13 recites "a processing for producing the device of claim 10" and claim 14 recites "a process producing the device (30) of claim 1."

However, a review of the subject matter of claim 13 with claims 1 and 10 reveals that claim 13 should have been associated with claim 1 and claim 14 should have been associated with claim 10.

Thus, to provide consistence in this matter, claim 13 has been amended to refer to claim 1 and withdrawn claim 14 has been amended to refer to claim 10. Claim 14, being amended to refer to claim 10, is thus to be withdrawn in a manner similar to that with regard to claim 15.

Applicant thanks the Examiner for correctly observing the structure of the claims to provide analysis of the claims on the merits.

With regard to the objection to the Specification for lacking section headings, applicant respectfully submits that 37 CFR §1.77(b) discloses a *suggested* format for the arrangement of the disclosure. Applicant respectfully submits that the present disclosure follows the suggested format where applicable. With regard to 37 CFR§1.77(c), which was not cited in the Office

Action, Applicant respectfully submits that section headings are suggested and not required, as 37 CFR §1.77(c) clearly states the sections defined in paragraphs (b) (1) through (b) (11) "should" be preceded by a section heading. Applicant respectfully declines to amend the disclosure to include the suggested headings at this time.

With regard to the rejection of the claims under 35 USC 112, second paragraph, applicant thanks the Examiner for his observations and has amended the claims to correct the noted errors.

For the amendments made to the claims, applicant submits that the reason for the rejection has been overcome.

With regard to the rejection of claims 1-9 and 13 under 35 USC 103(a) as being unpatentable over Nagayama in view of Dimitrakopoulos or alternatively, Dimitrakopoulos in view of Nagayama, applicant respectfully disagrees with and explicitly traverses the rejection of the claims.

However, in order to advance the prosecution of this matter, independent claims 1 and 13 have been amended to further recite that the control electrode and a first electrode of the storage device are electrically isolated elements of a same conductive layer. No new matter has been added. Support for the amendment may be found at least in Figures 3-7 which illustrate the electrically isolated electrodes 12 and 13 of a same conductive layer.

In rejecting the claims, the Office Action refers to Nagayama for disclosing all the elements recited in the claims and acknowledges that Nagayama does not expressly disclose that the dielectric layer can be formed of a ferroelectric material. The Office Action refers to Dimitrakopoulos as evidencing that ferroelectric gate insulating layers were known in the art.

In reviewing the referred to Figure 4 of Nagayama, which refers to an integrated two transistor device (elements 11, 12) and a capacitor 13 between the two transistor elements, it is noted that the GIF layer is discontinuous between the two transistor elements 11, 12. That is the drain (D) of transistor 11

is serially connected to the gate (G) of transistor 12. Further one electrode of the capacitor 13 is connected to the gate of transistor 12.

This connection creates a discontinuity in the GIF layer so that the two transistors (and the capacitor 13 in-between) do not share the GIF layer. Thus, the GIF layer of the first transistor and the GIF layer of the second transistor (and capacitor 13) are not individual parts of a same ferroelectric layer, as is recited in the claims.

Furthermore, Nagayama illustrates capacitor 13 including a first electrode 13a and a second electrode 13c sandwiching the GIF layer 13b. Electrode 13a is illustrated as being physically (and, hence, electrically) the same element as the gate electrode of the transistor 12.

Thus, in one case, with regard to the capacitor 13 (i.e., a storage device) and the transistor 11 (i.e., a selection device), Nagayama discloses a discontinuity in the GIF layer with a first electrode of the capacitor being electrically isolated from the gate electrode of transistor 11. And in a second case, Nagayama discloses a continuous GIF layer between capacitor 13 and transistor 12. However, a first electrode of the capacitor is electrically connected to the gate electrode of transistor 12.

Accordingly, Nagayama fails to disclose an insulating layer (GIF) of a same material between a storage device and a selection device wherein the control gate of the selection device and a first electrode of the storage device are electrically isolated on a same conductive layer, as is recited in the claims.

A claimed invention is *prima facie* obvious when three basic criteria are met. First, there must be some suggestion or motivation, either in the reference themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the teachings therein. Second, there must be a reasonable expectation of success. And, third, the prior art reference or combined references must teach or suggest all the claim limitations. However, the Court in *KSR v. Teleflex* (citation omitted) has held that the teaching, suggestion and motivation test (TSM) is merely to be used as a helpful hint in

determining obviousness and a bright light application of such a test is adverse to those factors for determining obviousness enumerated in the Graham v. John Deere (i.e., the scope and content of the prior art, the level of ordinary skill in the art, the differences between the claimed invention and the prior art and objective indicia of non-obviousness) (citation omitted).

In this case, the combination of Nagayama and Dimitrakopoulos, fails to disclose a material element recited in the claims or provide any teaching that would motivate one skilled in the art to develop the novel implementation recited therein.

Accordingly, claims 1 and 13 are not rendered unpatentable as asserted by the Office Action.

With regard to the alternative rejection of the claims (i.e., Dimitrakopoulos in view of Nagayama), applicant respectfully disagrees with and explicitly traverses the rejection of the claims.

In rejecting the claims in this alternative form, the Office Action asserts that "it would be obvious to one of the ordinary skill in the art at the time the invention was made to incorporate the integrated capacitor/transistor structure of Nagayama into the device of Dimitrakopoulos so that an integrated device with desired device functionality would be obtained."

Dimitrakopoulos discloses a thin film field effect transistor with organic semiconductor requiring low operating voltages. Dimitrakopoulos, however, is silent with regard to the use of capacitor devices and provides no teaching or motivation to incorporate capacitors within the claimed transistor. Rather the device of Dimitrakopoulos focuses on the ability to use a desired material as an insulating material.

The device disclosed by Dimitrakopoulos fails to provide any need for such capacitors.

Hence, even if one skilled in the art would review the teaching of Dimitrakopoulos to develop a display panel using the devices disclosed, one is not motivated to consider integration of the capacitors as proposed by the Office Action (i.e., incorporating the device of Nagayama) as the configuration of Nagayama would produce devices that have the same configuration, and same deficiencies, as described with regard to Nagayama.

For the remarks made herein, applicant submits that the reasons for the rejection of the aforementioned independent claims have been overcome.

With regard to the remaining claims, these claims depend from claim 1 and, hence, are also allowable by virtue of their dependency upon an allowable base claim.

For the amendments made to the claims and for the arguments presented, herein, applicant submits that the objections and rejections of the claims have been overcome and respectfully requests that the objections and rejections be withdrawn and that a Notice of Allowance be issued.

Applicant denies any statement, position or averment stated in the Office Action that is not specifically addressed by the foregoing. Any rejection and/or points of argument not addressed are moot in view of the presented arguments and no arguments are waived and none of the statements and/or assertions made in the Office Action is conceded.

Applicant makes no statement regarding the patentability of the subject matter recited in the claims prior to this Amendment and has amended the claims solely to facilitate expeditious prosecution of this patent application. Applicant respectfully reserves the right to pursue claims, including the subject matter encompassed by the originally filed claims, as presented prior to this

Amendment, and any additional claims in one or more continuing applications during the pendency of the instant application.

In the event the Examiner deems personal contact desirable in the disposition of this case, the Examiner is invited to call the attorney at the telephone given below.

Respectfully submitted,

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